

REMARKS

INTRODUCTION

Because the Advisory Action of July 24, 2009 did not enter the proposed amendments filed on July 10, 2009, Applicants hereby propose to enter an Amendment after a Request for Continued Examination (RCE) by canceling claim 2, and amending claims 1, 14 and 15.

Amended claim 1 now incorporates the subject matter of canceled claim 2. This amendment is supported by the specification and the originally filed claims.

Amended claims 14 and 15 are now directed to a method for producing the resin composition according to amended claim 1. This amendment is supported by the specification, and in accordance with the suggestion of the Examiner that amended claims 14 and 15 should not broaden the scope of claim 1 (Advisory Action, Continuation Sheet of PTO-303, page 2).

Therefore, claims 1, 5-6, and 8-16 are pending and under consideration. Reconsideration is respectfully requested.

INFORMATION DISCLOSURE STATEMENT (IDS)

The issue regarding the IDS raised by the Examiner in the Office Action of March 10, 2009 and the Advisory Action of July 24, 2009 is now considered moot because an IDS is concurrently submitted with this Amendment after RCE. With the RCE, neither a fee nor a certification statement would be required.

In the Advisory Action of July 24, 2009, the Examiner refers to the U.S. Patent Application Publication No. "2003/0118757" as "not properly cited with the author." Applicants would like to point out that the correct Publication No. is "2003/0116757", with Miyoshi as the first author.

REJECTIONS UNDER 35 U.S.C. §112

The rejection of claims 1, 2, 5, 6, 8-16 under 35 U.S.C. §112, first paragraph according to the Office Action of March 10, 2009 has now been withdrawn by the Advisory Action of July 24, 2009. Applicants appreciate this decision.

REJECTIONS UNDER 35 U.S.C. §103

Claims 1, 2, 5, 6 and 8-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Takagi et al. (U.S. Patent Application Publication 2003/0130405) ("Takagi").

The Examiner asserts that component "B" in **Takagi** comprises polyester and polyamide (**Takagi**, claim 5), while component "A" in **Takagi** comprises polyphenylene ether (**Takagi**, claim 4) and component "D" in **Takagi** is carbon fibril.

However, the Examiner admits that there is no example in **Takagi** that uses all of the components in the application. Nevertheless, the Examiner concludes that it would have been obvious as to one ordinary skill in the art to arrive at the invention according to the application "by selecting from the various disclosures of the reference." Furthermore, the Examiner argues that **Takagi's** disclosure "implies that any proportions will work" with respect to the amounts in the components in the application.

Regarding the polyester component, in the Advisory Action of July 24, 2009, the Examiner further comments that **Takagi** refers to the components being "mostly" or "mainly" in one phase and thus implies that at least a portion of polyester is in the discontinuous phase. The Examiner opines that, claim 2 of the application only recite that component (C) forms a discontinuous phase, but does not recite that component (C) "resides mainly" in the discontinuous phase.

With this Amendment after RCE, amended independent claim 1 recites four components: A, B, C and D in the following manner:

"A resin composition comprising

(A) a polyamide,

(B) a polyphenylene ether,

(C) poly(ethylene terephthalate) and/or poly(trimethylene terephthalate) and/or poly(butylene terephthalate), which contain no ionic functional group, and

(D) a conductive carbon filler,

wherein the polyamide forms a continuous phase and the polyphenylene ether and the component (C) form a discontinuous phase; and

wherein the component (C) is contained in an amount of 0.1 to 25 parts by mass based on 100 parts by mass of total amount of the polyamide and the polyphenylene ether."

Essentially, according to amended claim 1 of the application, component (C) is directed to poly(ethylene terephthalate) and/or poly(trimethylene terephthalate) and/or poly(butylene terephthalate), and that component (C) contains no ionic functional group. Furthermore, component (C) is contained in an amount of 0.1 to 25 parts by mass based on 100 parts by

mass of the total amount of the polyamide, i.e. component (A), and the polyphenylene ether, i.e. component (B). In addition, the polyamide forms a continuous phase and the polyphenylene ether (component B) and the component (C) form a discontinuous phase.

A potential objective of the present invention is to provide a resin composition and a resin molded article having both a high fluidity and excellent conductivity and surface luster and low water absorption properties, by blending a polyamide, polyphenylene ether, a conductive carbon filler and a particular polyester (Application as filed, page 5, lines 18-27). The proportion of the polyester in the resin is 0.1 to 25 parts by mass based on 100 parts by mass of the total amount of the polyamide and the polyphenylene ether (Application as filed, page 24, line 22, to page 25, line 12).

Because (1) the definitions of components A, B, C, and D in the present application are different from (2) the definition of components A, B, C, and D in **Takagi**, Applicants re-emphasizes their definitions so that potential confusion can be avoided.

(1) Definitions of A, B, C, and D in the Application

A is polyamide (PA)

B is polyphenylene ether (PPE)

C is poly(ethylene terephthalate) (PET), and/or poly(trimethylene terephthalate),
and or poly(butylene terephthalate)

D is a conductive carbon filler (CF)

(2) Definitions of A, B, C, and D in **Takagi**

A is polyphenylene ether (PPE)

B is polyamide (PA) and polyethylene terephthalate (PET)

C is carbon black having specific surface area not more than 600 m²/g (**Takagi**,
paragraph [0049])

D is carbon black having specific surface area not less than 600 m²/g (**Takagi**,
paragraph [0050])

Independent amended claim 1 of the application recites that the polyamide (PA) (component A) forms the continuous phase (i.e. the sea phase), while the polyphenylene ether (PPE) (component B) and component C, i.e., the polyethylene terephthalate (PET) and the like, form the discontinuous phase (i.e. the island phase). According to the application, the location of the conductive carbon filler (CF) (component D) is not specified.

In contrast, **Takagi** teaches a resin composition containing a thermoplastic resin that comprises two different thermoplastic resins (components A and B), conductive carbon black

(component C) and conductive carbon black having a larger specific surface area than that of component C (component D) (**Takagi**, page 1, paragraph [0009]). Examples of component A include polyphenylene ether (PPE) (**Takagi**, paragraph [0065]). Examples of component B include polyesters such as poly(ethylene terephthalate) (PET) (**Takagi**, paragraphs [0037] and [0071]), and polyamide (PA) (**Takagi**, paragraphs [0044] and [0070]). As the Examiner states (Office Action dated March 10, 2009, page 2, last paragraph), **Takagi's** component B of may be comprised of polyester and polyamide (**Takagi**, page 3, paragraphs [0034] and [0037]).

However, **Takagi** explicitly teaches that the thermoplastic resin used as component B forms the sea phase (**Takagi**, page 4, paragraph [0047]). Furthermore, according to paragraph [0052] of **Takagi** (**Takagi**, page 5), component B thermoplastic resin (sea phase) will be 95 to 35 parts by weight in 100 parts by weight of the two thermoplastic resins combined (in a total of sea and island phases). In other words, **Takagi** is characterized in that polyamide and/or polyester are the sea phase, i.e. a continuous phase, so that the thermoplastic resin composition has good mechanical strength and heat resistance (**Takagi**, page 1, paragraph [0001]).

To the contrary, the present invention requires that the polyamide forms a continuous phase, while the polyphenylene and the polyester should form a discontinuous phase, i.e. the island phase of the island-and-sea structure (Application as filed, page 44, line 28, to page 45, line 16). According to the present invention, the resin composition produces an excellent surface appearance due to the formation of the discontinuous phase by the polyester.

In this regard, the present invention is different and would not have been obvious over **Takagi**. When the polyester forms a discontinuous phase as in the present invention, surface luster and electrical conductivity can be efficiently improved. Such advantageous effects of the present invention are not described or suggested in **Takagi**.

While **Takagi** teaches about island-and-sea micro structures (**Takagi**, page 4, paragraphs [0046] and [0047]), **Takagi** teaches away from the invention according to amended claim 1 because **Takagi** requires its "component A" to be in the island phase (i.e. the discontinuous phase), while its "component B" to be in the sea phase (i.e. the continuous phase). According to **Takagi**, an example of "component A" is polyphenylene ether resin (**Takagi**, page 10, claim 4), and examples of "component B" are polyamide resin and polyester resin (**Takagi**, page 10, claim 5). In contrast, amended claim 1 of the application recites that the polyamide forms a continuous phase, while the polyphenylene ether and the polyesters according component (C) form a discontinuous phase.

The Examiner's comments in the Advisory Action that claim 2 of the application does not recite that component C resides "mainly" in the discontinuous phase is noted. However, such

comments do not impact the application for the following reasons. First, claim 2 is canceled and the subject matter therein is now part of amended claim 1. Second, although amended claim 1 does not recite the adjective "mainly", amended claim 1 would not have been obvious over **Takagi** because the term "mostly" with regard to component A and component B in **Takagi**'s paragraph [0047] does not refer to the island phase, or the sea phase.

Specifically, in **Takagi**'s paragraph [0047], lines 5-10:

"... component A comprises mostly an amorphous thermoplastic resin and constitutes the island phase in the micro structure, and the thermoplastic resin used as component B comprises mostly a crystalline thermoplastic resin and forms the sea phase in the micro structure."

Therefore, the term "mostly" in **Takagi**'s paragraph [0047] only refers to the type of resin but not the type of micro structure, i.e. island phase or sea phase. The Examiner's conclusion that "at least a portion of polyester (although not a major amount) is in the discontinuous phase" is not supported by the teachings of **Takagi** as noted above.

Therefore, it would not have been possible for one having ordinary skill in the art to expect the advantageous effects of the present invention from **Takagi** which teaches quite a different location of the polyester component in the island-and-sea structure. Thus, the invention according to amended independent claim 1 of the application would not have been obvious over **Takagi**. Furthermore, dependent claims 5-6 and 8-16, being dependent from amended claim 1, would not have been obvious over **Takagi**.

Therefore, Applicants request that the rejection of claims 1, 2, 5, 6 and 8-16 under 35 U.S.C. §103(a) for being obvious over **Takagi** be withdrawn.

CONCLUSION

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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